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RAV RT904
RAV RT904K

SERVICE MANUAL
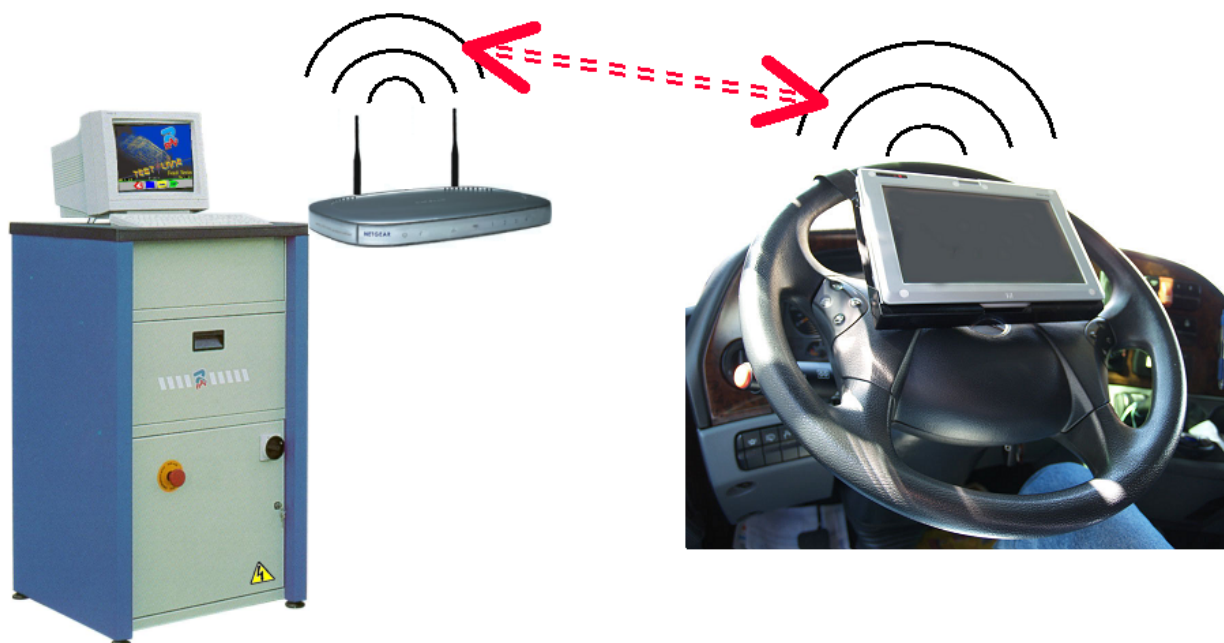Code M0134 - rev.1.0
(08/2006)

ASSISTANCE MANUAL
FOR THE CONNECTION AND CONFIGURATION
OF THE "FLYBOOK" MINIPC

REMOTE CONTROL FOR BRAKE TEST LINES

FOR USE BY AUTHORISED RAVAGLIOLI S.p.A.
AFTER-SALES CENTRES

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SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

INDEX

RAVAGLIOLI S.p.A. shall be entitled to make any changes to the models described in this manual for technical or commercial reasons.

RAVAGLIOLI S.p.A.

RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

1 INTRODUCTION

The RAV RT094 system (complete with HW components: MINI-PC and ACCESS POINT) and RAV RT094K system (ONLY SW - with HW to be provided by customer), permits the complete remote control of RAVAGLIOLI test lines.
The RAV RT094 system makes it possible to follow the vehicle test completely on 8.9" monitor, using the remote mechanism on the "Touch screen" by means of the function keys F1-F2-F3-F4, and by entering personal and vehicle data through the keyboard.

Thanks to the "remote control" system, display problems such as sunlight reflections on the console are eliminated, as is the need to have repeaters located along various points of the line.

The console can also be installed in a non-visible position and installation is totally wireless!

In the complete RAV RT094 system, the MINI-PC FLYBOOK features an internal battery, but the possibility also exists of recharging through the vehicle cigarette lighter (12÷24V). The MINI-PC FLYBOOK also features an adjustable screen that can be used in "notebook" or "tablet" mode. Thanks to the RAVAGLIOLI steering wheel fastening device, the MINI-PC Flybook can be easily fastened to the vehicle steering wheel.

For more details on how to use the MINI-PC FLYBOOK, refer to the manual provided.

The "remote control on MINI-PC system" can be installed on all the Brake Test lines for cars and trucks, with "International" program or PC station, complete with SW version 9.50W or later.

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Page 1/14

RAVAGLIOLI S.p.A.

RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

2   LAYOUT
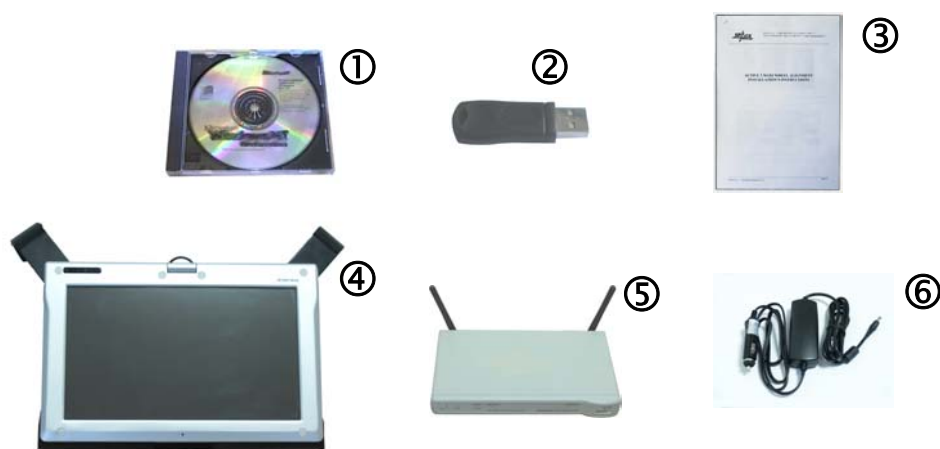
2.1   Layout RAV RT094

Figure 1

2.2   Layout RAVC RT094K

Figure 2

Key:

1. CD for installing program on remote PC ("Flybook") (also valid for updating SW ver. 9.50W on brake tester)

2. Smartkey USB for protecting program on remote PC

3. Instruction manual

4. MINI-PC DIALOGUE FLYBOOK, screen 8,9", O.S. Windows XP Pro®, processor Crusoe TM5800 1000MHz, 512 MB of RAM (also see manual supplied with MINIPC)

5. "ACCESS POINT" device (WI-FI network concentrator) for connecting console PC to WI-FI network. (also see manual supplied with ACCESS POINT device).

6. Car/Truck battery charger on cigarette-lighter point at 12 or 24 V

RAVAGLIOLI S.p.A.

RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

3   Installing the program on remote MINI-PC

Connect the CD-Rom drive on the MINI-PC (see manual provided with the MINI-PC)

The operating software of the remote-control system RAV RT094 and RAV RT094K must be installed using the following supports:

- RAV Test-Lane Installation CD code 15530

- SMARTKEY "TLC" USB code 16912

Fit the SMARTKEY "TLC" USB in a USB port of the PC

Access the WINDOWS DESKTOP on the MINI-PC where the program is to be installed and proceed as follows:

Figure 3

Fit the RAV Test-Lane Installation CD-Rom code 15530 and wait for installation procedure Autorun. See Figure 4. Click on the "Next" key..
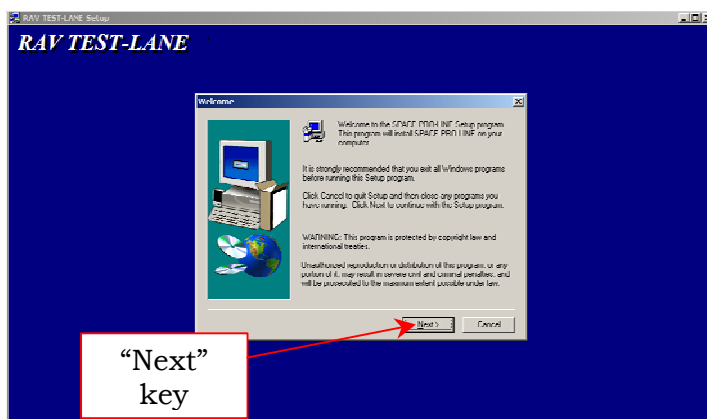

"Next" key

Figure 4

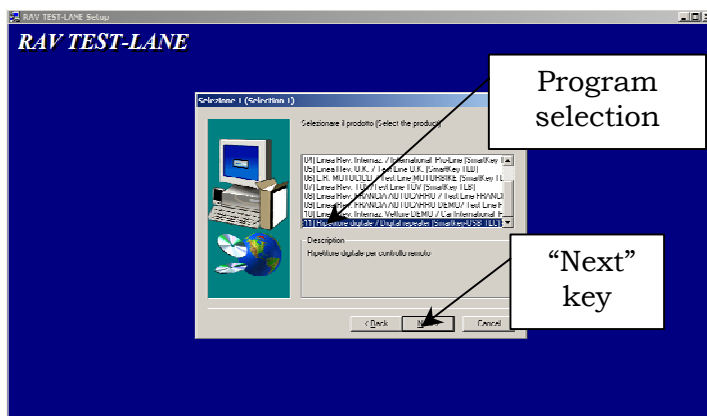Select program :
Digital repeater (Smartkey USB TLC)

Click on the "Next" key".

Program selection

"Next" key

Figure 5

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RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

Confirm the selected choice by clicking on the "Next" key.
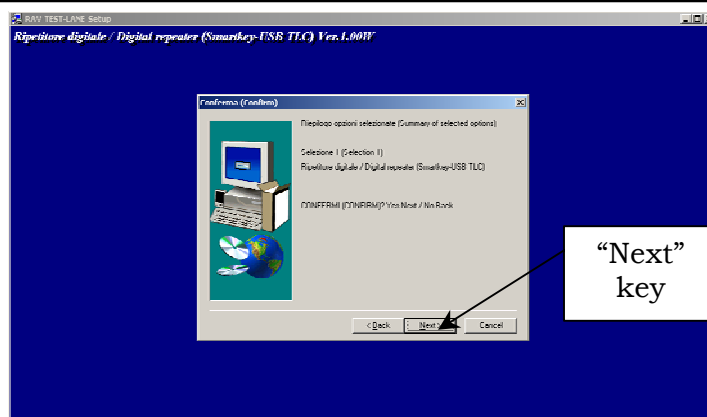

"Next" key

Figure 6

Wait for file installation to be completed. *(This operation could last a few minutes).*

At the end of this operation, a confirmation page is shown:
"SETUP COMPLETED ! Remove CDROM and press ENTER key."

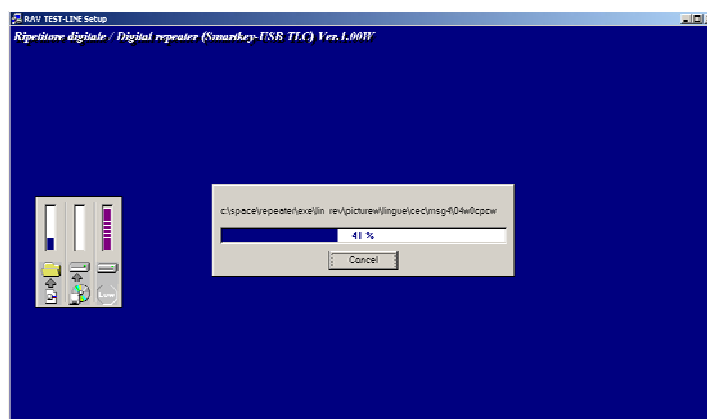Remove the CD-ROM and press Enter (or click on the OK key).

Figure 7

On the Windows Desktop (see Figure 8) a new icon now appears:

By means of this icon, the program can be run for the remote control of the brake test line.
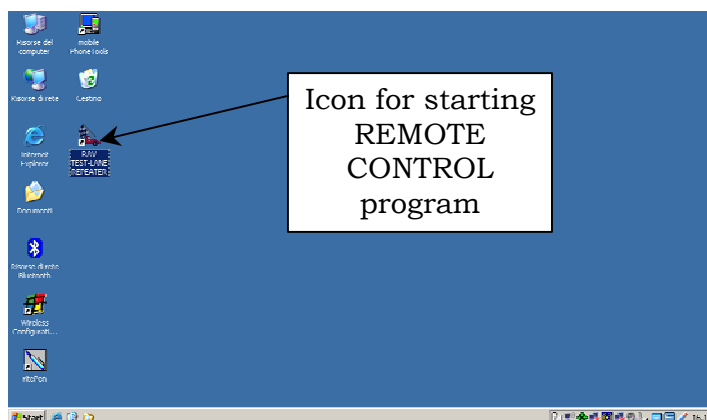
Icon for starting REMOTE CONTROL program

Figure 8

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RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

4 Network settings

4.1 Network settings on remote MINI-PC

First of all start the Wireless Network module.
On the MINI-PC Dialogue Flybook (part of fittings of complete RAV RT094 system) press the keys Fn + F8 at the same time; for a few moments, the symbol indicated alongside will appear to indicate "Wireless ON".
Note: to disengage/engage the Wireless module again, if necessary press Fn + F8 again.

For the PCs purchased separately (not included with RAV RT094K fittings) refer to the instructions provided by the manufacturer.

The MINI-PC Dialogue Flybook is equipped with Windows XP® Pro operating system with Service Pack 2. For PCs purchased separately, the same operating system will be required, in the Professional or Home edition.

To create a network connection, proceed as follows:
Select the "Network Connections" icon on the "Control Panel" (see Figure 9)) and click twice. The page shown in Figure 10 will appear.

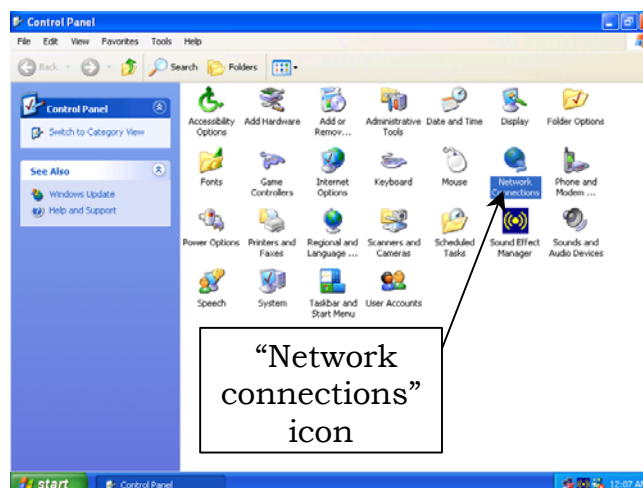"Network connections" icon

Figure 9

Highlight the "WI-FI Connection" icon by clicking on it once.
Now "Click" with the right mouse button. The window will appear with the menu shown in Figure 10.

Select the "Properties" option. The page shown in Figure 11 will appear.
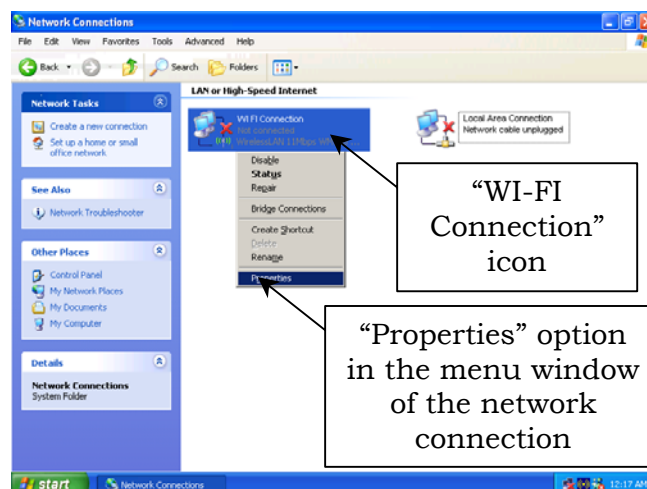

"WI-FI Connection" icon

"Properties" option in the menu window of the network connection

Figure 10

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Page 5/14

Select the "TCP/IP" protocol and "click on the "Properties" button. The page shown in Figure 12 will appear.

NOTE: only tick the "Internet Protocol (TCP/IP)" option.

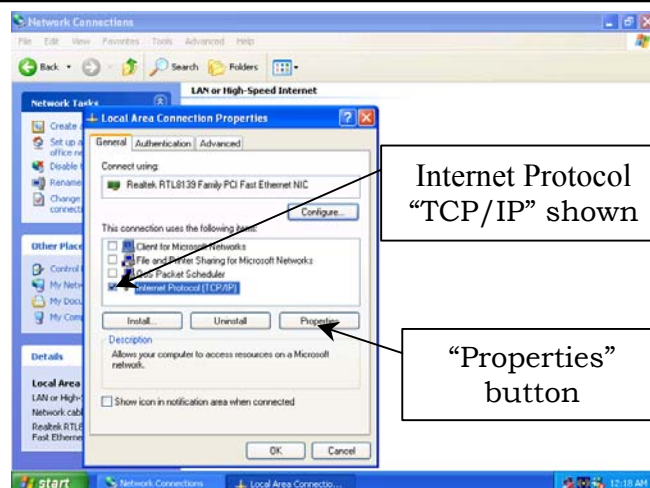Internet Protocol "TCP/IP" shown

"Properties" button

Figure 11

Enter the IP address manuallly and then confirm by clicking on the "OK" button

Manual entering of IP address

NOTE: the last figure of the IP address must be different between the remote MINI-PC and the PC in the Brake test console.
For example, if the IP address of the Brake test PC is **192 . 168 . 0 . 1**, on the remote MINI-PC enter **192 . 168 . 0 . 2**
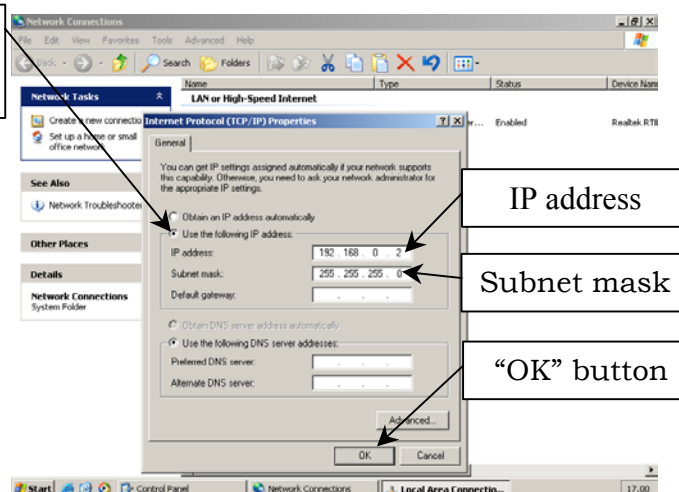The "Subnet mask" on the other hand must be the same for all the PCs of the network → **255 . 255 . 255 . 0**

IP address

Subnet mask

"OK" button

Figure 12

4.2   Network settings on the brake test console PC.

Complete the network settings on the brake test console PC as well.
NOTE: The PC of the brake test console must necessarily feature Windows XP® operating system with Service Pack 2 (Home or Professional edition).

Proceed in the same way as indicated for the remote MINI-PC settings (see chap. 4; Figure 9 ÷ Figure 12).
NOTE: The icon to be highlighted in Figure 9 is "Local area connection" instead of "WI-FI connection"; Moreover, in the brake test PC, also tick the option "Client for Microsoft Networks" (see Figure 11).
As indicated above, the last figure of the IP address must be different between the remote MINI-PC and the PC in the Brake test console (see Figure 12).

Access the parameters menu (also see brake test Service manual) and enter → "REMOTE DIGITAL REPEATER = PRESENT" at parameter Nr. 1043.
Leave parameters from 1044 to 1049 unchanged.

RAVAGLIOLI S.p.A.

RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

5 Installing the Access point system

After setting the network configuration on the braketester and on the control PC (chapter 4.1 and 4.2), the "ACCESS-POINT" device (WI-FI network concentrator) will have to be connected and configured.

The device included in the RAV RT094 kit is a "3COM - Wireless 11G" model; the following instructions refer to this model. For more details, also see the specific device manual.

Regarding the "Access-Point" devices purchased separately (not included in the RAV RT094K outfit), refer to the instruction provided from the manufacturer.

Connect the Access-point device to the LAN socket of the control PC by means of the "straight" Ethernet cable provided and switch it on.

Insert the installation CD of the "Access Point" device and wait for the menu page in Figure 13 to appear.
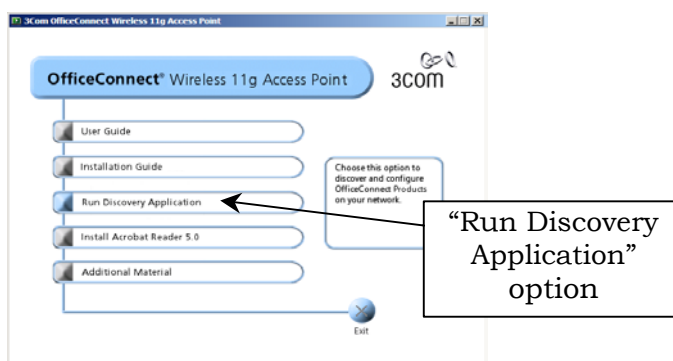
Click on the "Run Discovery Application" option

Figure 13

Select the LAN port of the PC used for connection to the Access point device and click on the "Next" key

NOTE: The PC normally only has one LAN port

Figure 14

The PC detects the Access Point device and shows the page in Figure 15.
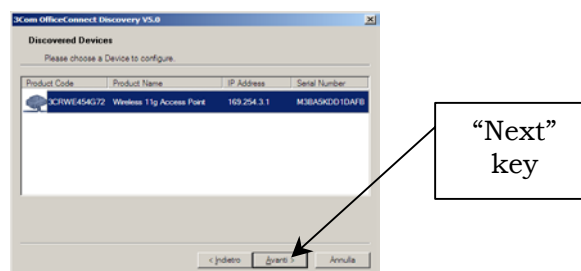
Click on the "Next" key to continue

Figure 15

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Page 7/14

RAVAGLIOLI S.p.A.

RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

The page in Figure 16 appears to indicate the "Discovery" procedure has been completed.

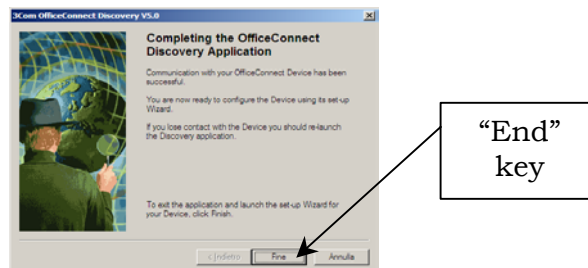Click on the "End" key to continue with the configuration procedure.

Figure 16

The page in Figure 17 appears.
The configuration procedure starts by requesting the default password **"admin"**

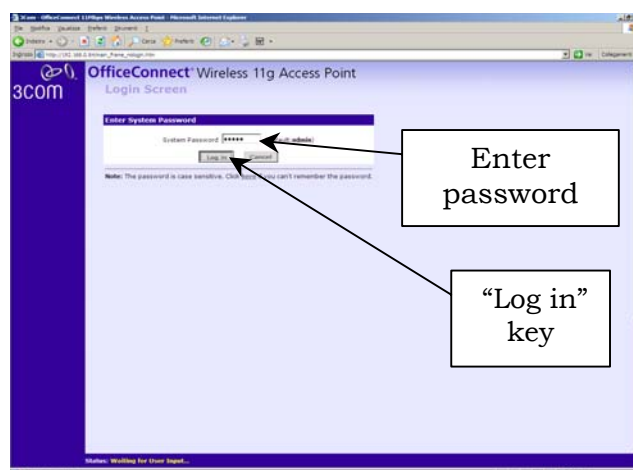Enter the default password and click on the "Login" key.

Figure 17

Select the country where the WI-FI network is being used so the transmission mode is automatically determined in accordance with applicable local laws.

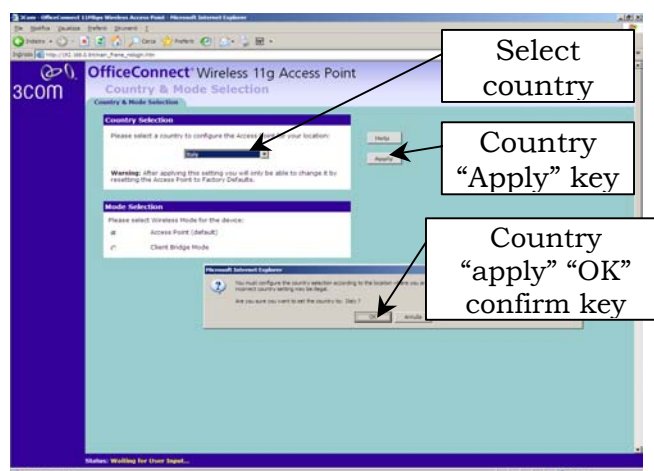Click on the "Apply" key and then on the "OK" confirm key.

Figure 18

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RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

The page in Figure 19 appears.

Click on the "Next" key to continue with the configuration procedure.
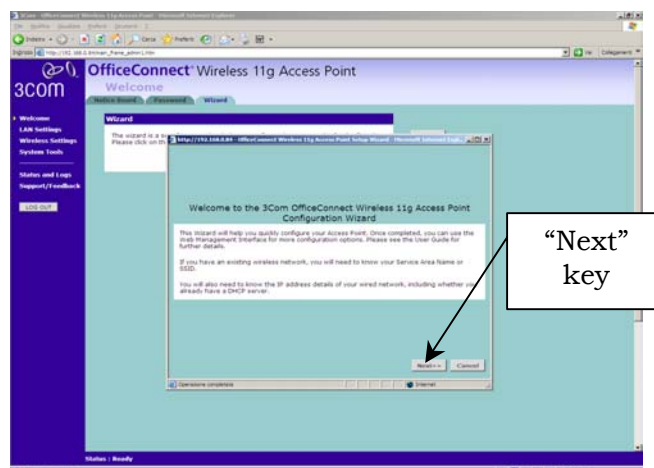

Figure 19

Change the ACCESS POINT password from the default password (admin) to a new one, so as to ensure adequate protection.

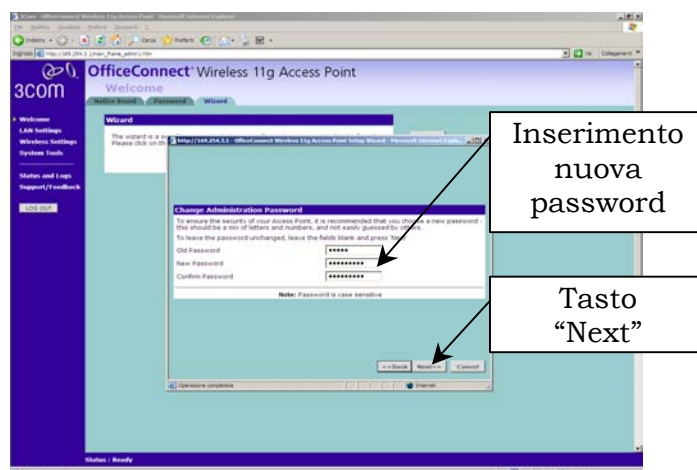Click on the "Next" key to continue with the configuration procedure.

Figure 20

Select the "Specify an IP address manually" option

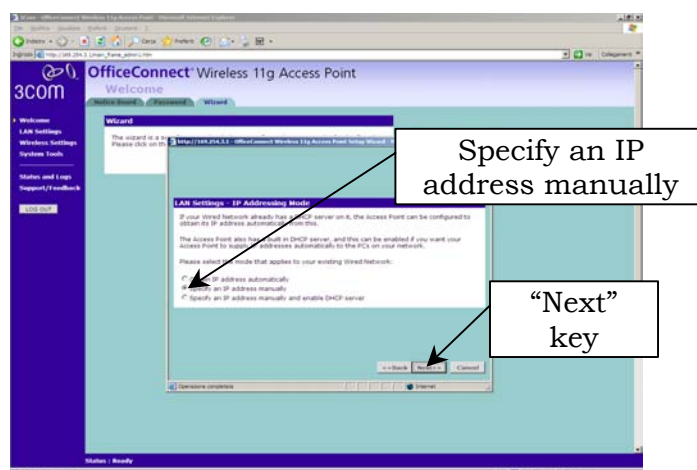Click on the "Next" key to continue with the configuration procedure.

Figure 21

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Page 9/14

RAVAGLIOLI S.p.A.

RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

Enter the IP address and the Subnet MASK

Subnet Mask must be: **255.255.255.0**

IP address → enter **192.168.0.*****

*** must be a number between 1 and 254 (different from those used for the control PC see chapter . 4 - Figure 12, and different from those introduced into the brake tester

We suggest entering the same number shown in the explorer bar at the top so the configuration procedure continues automatically without having to enter the IP address chosen in the explorer bar later on.
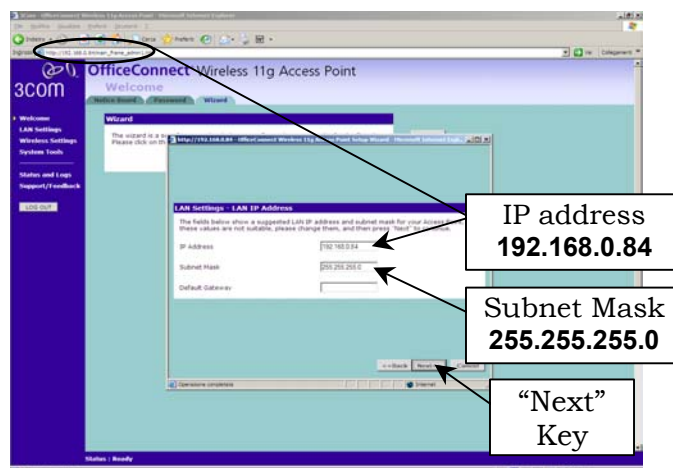
Click on the "Next" key to continue

IP address
192.168.0.84

Subnet Mask
255.255.255.0

"Next"
Key

Figure 22

Leave the predefined transmission channel selected (normally 11).

Enter a name for the "Service Area" instead of the 3COM default name,
for instance "TEST-LINE NET"
so as to clearly identify the WI-FI network, when the network is selected (see chap. 6.1)

Click on the "Next" key to continue.

Transmission channel
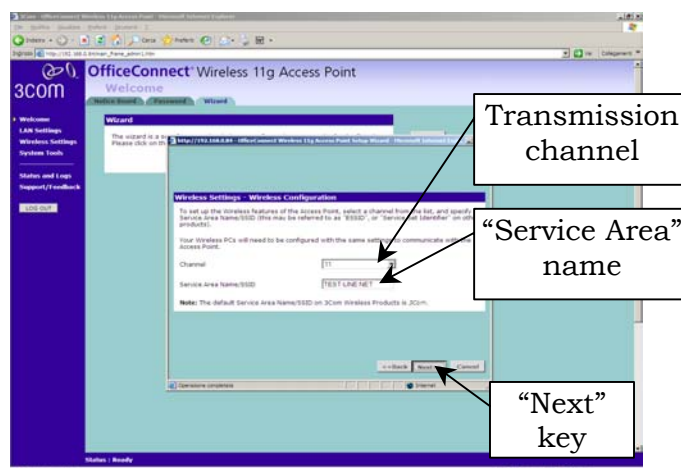
"Service Area" name

"Next" key

Figure 23

The page in Figure 24 which then appears summarises the selections made.

Click on the "Finish" key to terminate ACCESS POINT device configuration.

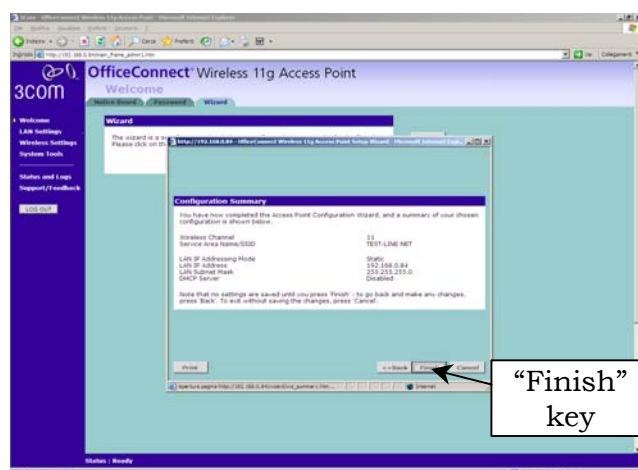Now enter the "WEP" network password see chap. 5.1

"Finish" key

Figure 24

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RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

5.1 Entering the network password on ACCESS POINT

To ensure the network traffic is secure and inaccessible to external users, a network password must be entered as shown below.

Select the "Wireless Settings" menu option on the left

Select the "Encryption" folder

In the WEP (Wired Equivalent Privacy) window select the type of 128bit encryption
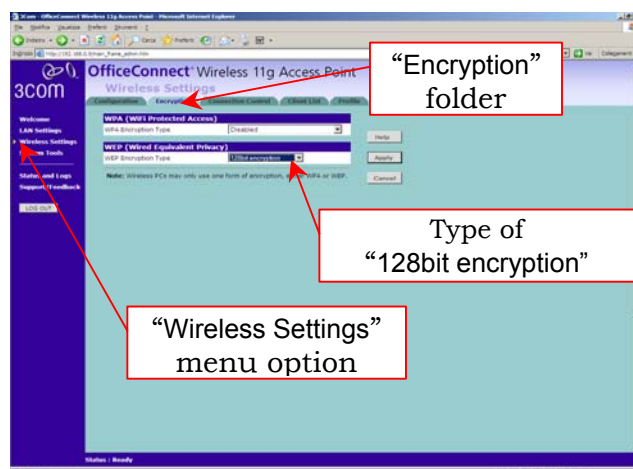
The WEP window enlarges as shown in Figure 26

Figure 25

Select the "ASCII" selection key generation method

In the "Key 1" box select the desired password; This must have exactly 13 ASCII characters

Note: Letters and numbers can be entered, but not accented characters. Note down the password exactly as it is entered, with capital or small letters.

Click on the "Apply" key to confirm the password.

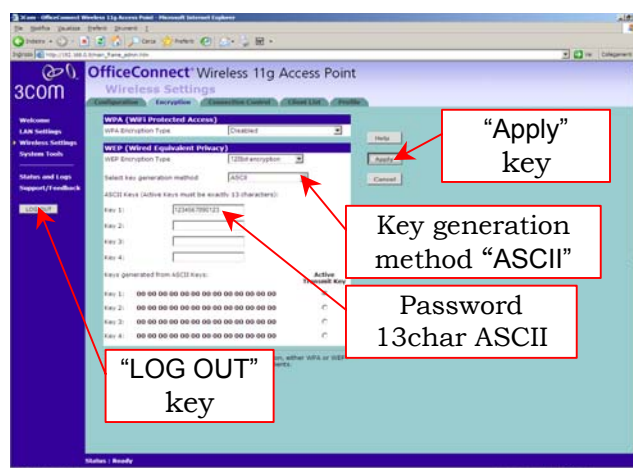Close the configuration program by clicking on the "LOG OUT" key

Figure 26

All the configurations relating to the ACCESS POINT device are now terminated.

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Page 11/14

RAVAGLIOLI S.p.A.

RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

6 Connecting the remote MINI-PC

6.1 Selection of WI-FI network on remote MINI-PC

Start the WI-FI module (see chap. 4.1)

Select the "Network connections" icon on the "Control panel"

Highlight the "WI-FI Connection" icon by clicking on this once.
Now click with the right mouse button. The window will appear with the menu highlighted in Figure 27.

Select the "Display available WI-FI networks" option. The page shown in Figure 28 will appear.
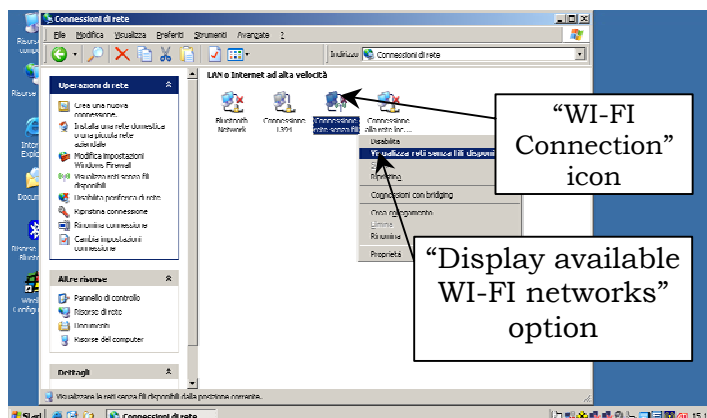

Figure 27

The Figure 28 page shows the WI-FI networks that can be accessed by our remote MINI-PC.
Select the "TEST-LINE NET" WI-FI network (named like this during ACCESS POINT configuration - see chap. 5, Figure 24) and click on the "Connect" key.

NOTE: Other WI-FI networks can also be accessed in addition to that of our "BRAKE TEST LINES REMOTE CONTROL" system.
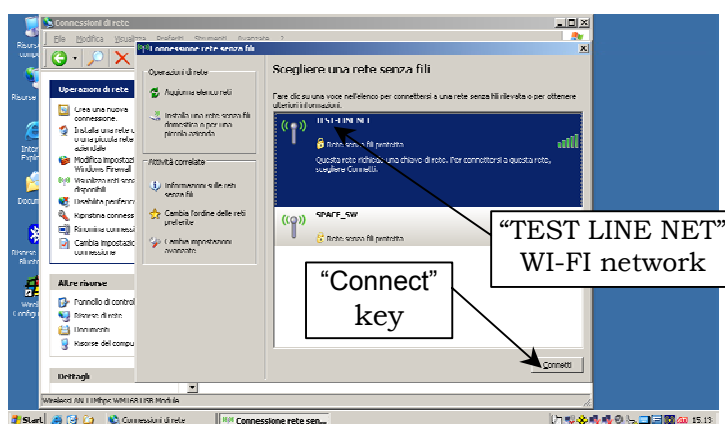Only the related network will however be used.

Figure 28

Carefully enter and confirm the network password (WEP key entered during ACCESS POINT configuration- see chap. 5.1).

Click on the "Connect" key.

IMPORTANT: even if a password different to the correct one is entered, the subsequent message will in any case show "CONNECTED", but it will not be possible to connect up to the brake test PC. Be very careful during this stage.
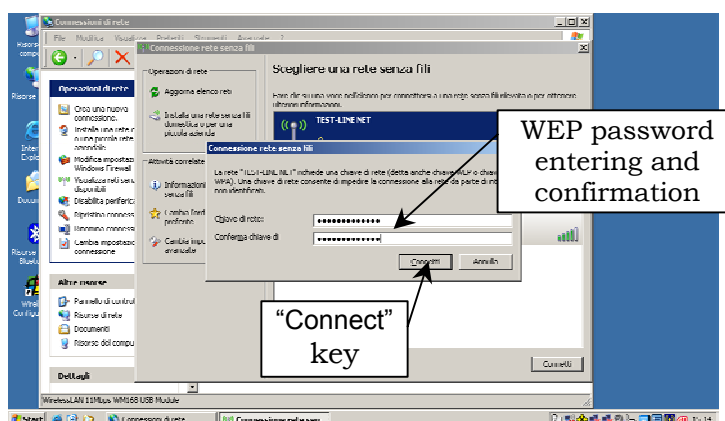

Figure 29

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RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

6.2 "RAV TEST-LANE REPEATER" program configuration

After starting the brake tester, the REMOTE MINI-PC can be connected.
First of all make sure the Wireless Network module is on (see chap 4.1).
Click on the "RAV TEST-LANE REPEATER" icon to start the "REPEATER" program (see Figure 8 on page 4.

Appear a display page showing :
"CONNECTION IN PROGRESS"

Press the keys ALT+F6 for the configuration of the IP address of the brake tester console

The page shown in Figure 31 will appear

Figure 30

Manually enter the IP address of the "MASTER" brake tester console whose repeater function is to be used.
(in our example it is **192 . 168 . 0 . 1**)
Press the OK key

The brake tester IP address remains stored and does not have to be reset again.

To use the repeater (MINI-PC) with a different Brake tester, simply access this page and enter the relevant IP address.
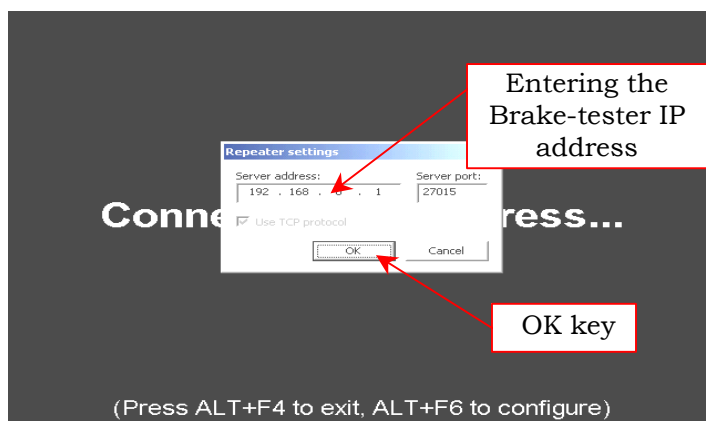

Figure 31

Wait for the connection to be completed. The same page appears displayed from the brake-tester (Figure 32).

To exit from the repeater function, press the ALT+ F4 keys

NOTE: If the connection does not complete, check FIREWALL settings → this must be disengaged!

Figure 32

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Page 13/14

RAVAGLIOLI S.p.A.

RAV RT904
RAV RT904K

SERVICE MANUAL
Code M0134 - rev.1.0
(08/2006)

7   Using the remote MINI-PC

The MINI-PC DIALOGUE FLYBOOK can be used in "Notebook" mode or in "Tablet" mode. The screen is adjustable

In "NOTEBOOK" mode the keys of the PC keyboard can be used (to enter personal details).

Figure 33

In "TABLET" mode, the "Touch screen" function and fastening to the vehicle steering wheel are perfect.

Figure 34

NOTE: When the MINI-PC Flybook is used in "TABLET" mode, screen display must be turned by 180°.
Such rotation can be set by a sequence of keys, through the Advanced Features of the Screen Settings.

- Select the "Rotation" folder
- Select the "Alternate between 0 and 180°" option
- Set the required sequence of keys for this function, eg.; "Ctrl - Alt - F12".
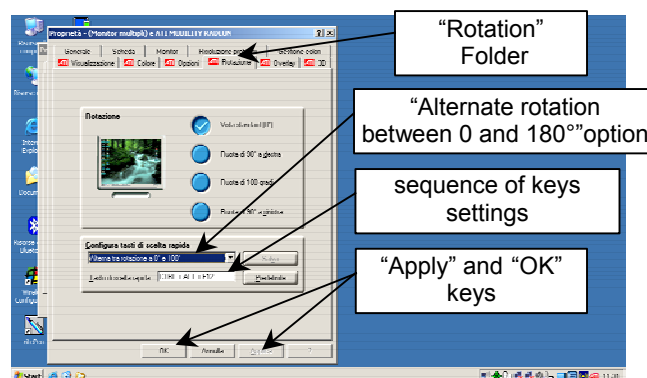- Press the "Apply" key and then "OK"

Figure 35

This way, it will be possible to alternate straight / rotated display with the selected key sequence.
NOTE: For PCs purchased separately (RAV RT094K), refer to the instructions provided by the manufacturer..